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The goal of this paper is to show that orthodox and heterodox theories of personal income distribution developed in the mid-twentieth century are effectively identical, despite their claims to the contrary. While segmented labor market theory contends that neoclassical theories of personal income distribution, such as human capital theory, ignore the impact of social institutions on the labor market, human capital theory actually implicitly incorporates them. Social institutions are, therefore, just as important in the orthodox approach to personal income distribution. Yet, while this is the case, the heterodox perspective is valuable because of the stress it places on social institutions, the importance of which is not always explicitly recognized in human capital theory.

Keywords
personal income distribution, human capital theory

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By Ross Nichols

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Introduction:
A.B. Atkinson titled his 1996 Presidential Address to the Royal Economic Society, “Bringing Income Distribution in from the Cold.” His rationale for doing so was that income distribution in the twentieth century was studied mainly through the lens of development economics, and that it therefore neglected the theory behind income distribution itself (Atkinson, 1997, 299). He believed that economists placed too much emphasis on studying the effects of income distribution at the cost of failing to attempt to understand the causes of income distribution. The study of income distribution had diverged from explaining “how the economy works” (ibid., 299). Atkinson urged the need for economics to collaborate with other social sciences to incorporate the importance of social norms into income distribution analysis because “a subject so central to social science as income distribution is one that we [economists] cannot solve on our own, and…a receptiveness to outside ideas [is] a sign of a discipline in
good health” (ibid., 318). Building an adequate income distribution theory thus required an interdisciplinary approach. But what Atkinson, as a representative of contemporary mainstream economics, failed to recognize was that great strides had been made in income distribution theory during the twentieth century. A renaissance had occurred several decades earlier that was of paramount importance to the theory of income distribution. Theories of personal income distribution emerged during the mid-twentieth century.

A study of the rebirth of income distribution theory naturally raises questions concerning the timing of this renaissance. One of the main goals of classical political economy was to explain how income was distributed between classes. During that time, a tension developed between the classical theory of income distribution and its Marxian critique that stemmed from the implications Ricardo and Marx drew from their respective class theories of income distribution. Renewed vigor of theoretical work on income distribution occurred in the mid-twentieth century and led to a seemingly much more decisive split between neoclassical economists and their critics. Whereas the theoretical foundations of Ricardian and Marxian theories of income distribution were similar, heterodox economists argued that the logic underpinning neoclassical theories of income distribution was flawed.

Sahota (1977) found human capital theory to be one of the most complete theories of personal income distribution developed by the neoclassicals. Human capital theory drew closely upon the theory of marginal productivity to explain how income was distributed between individuals rather than social classes. Instead of analyzing income distribution within the context of capitalists and laborers, the focus of income distribution theory shifted to an analysis of how income was distributed between labor and capital as factors of production. Segmented labor market theory was introduced as a neo-Marxian critique of
human capital theory.\textsuperscript{6} It was based on the argument that sociopolitical forces sorted workers into distinct and rigid labor markets. Individual incomes were thus largely the product of class relations in the workplace. Segmented labor market theory argued that “the law of one price will not prevail in labor markets, even in the long run” (Rebitzer, 1993, 1411). The rebirth of interest in income distribution thus appeared to generate a wide split between competing theories of personal income distribution. Segmented labor market theory criticized human capital theory for neglecting the role of social institutions in the distribution of personal income.

Closer analysis of human capital theory and segmented labor market theory, however, reveals that these two theories are essentially equivalent. Rebitzer (1993) cites several instances of neoclassical economists incorporating the notion of segmented labor markets into their work, but the relationship between human capital theory and segmented labor market theory is much closer than previous literature implies. Therefore not only is it important to study the rebirth of income distribution in the mid-twentieth as a reminder to contemporary economic discourse of the theoretical work done on income distribution during this time, the mid-twentieth century also produced a heated debate between neoclassicals and neo-Marxists concerning the explanation of the distribution of personal income. And while Rebitzer acknowledges that these opposing views were reconciled to an extent, this paper will show that human capital theory and segmented labor market theory are even more fundamentally similar than Rebitzer suggests. In short, a better understanding of how income distribution theory was “brought in from the cold,” and the implications associated with this revival, is needed.

\textsuperscript{6} Both neo-Marxists and neo-institutionalists advocate forms of segmented labor market theory. While Osterman, Rebitzer and Piore are referenced in the text, they are considered neo-institutionalists. Since the purpose of this paper is to compare segmented labor market theory with human capital theory rather than examine the various forms of segmented labor market theory, the two groups are not differentiated.
The following analysis is divided into six sections. The first section examines the origins of income distribution theory in classical and Marxian economics, and show that classical political economy never attempted to develop a theory of personal income distribution. In the second section, I discuss how Clark’s theory of marginal productivity served as a bridge to the development of theories of personal income distribution in the mid-twentieth century. In the third section, I analyze the circumstances that contributed to the rise of theories of personal income distribution and present the theoretical foundations of human capital theory. I also examine the criticisms of human capital theory. The fourth section focuses on the critique of human capital theory developed by radical political economy in an effort to show how segmented labor market theory emerged as an important heterodox explanation of personal income distribution. The fifth section shows that orthodox and heterodox explanations of personal income distribution share close theoretical foundations and are thus effectively identical explanations for the distribution of personal income. The only discernible difference between the two is the emphasis placed on social institutions. In the final section, I briefly summarize my findings.

I. Classical and Marxian Theories of Income Distribution

Writing at the height of classical political economy, Ricardo believed that income distribution was so important to political economy that economics should be defined as “an enquiry into the laws which determine the division of the produce of industry amongst the classes who concur in its formation” (Ricardo, 1951, 278). In short, Ricardo contended that the distribution of income was the machine that drove the economy. Explaining the rate of profit was one of the main goals of Ricardo’s Principles.

Ricardo argued that “the produce of the earth – all that is derived
from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community” (Ricardo, 1821, v). The profits that accrued to capitalists were the product of capitalist relationships with both landlords and laborers. Ricardo accepted the Malthusian theory of population and its attendant assumption that rapid population growth would drive wages down to the subsistence level. Profits were thus governed by a socially and morally7 determined level of subsistence. Yet while profits were determined by the subsistence wage level, the subsistence wage and technology level was in turn determined by “the quantity of labour requisite to provide necessaries for the labourers, on that land or with that capital that yields no rent” (ibid., 128). In effect, the profits of capitalists were determined by the extent to which infertile land was being used to grow the crops on which workers subsisted.

There was thus a tendency for the rate of profit “to fall; for, in the progress of society and wealth, the additional quantity of food required is obtained by the sacrifice of more and more labour” (ibid, 120). As society progressed, increasingly less fertile land came under cultivation which subsequently increased the amount of rent collected by landlords. This made food more expensive, forcing capitalists to pay higher wages and keep a smaller portion of their revenue. Furthermore, a high rate of profit attracted outside capital so competition depressed profit rates, but “a fall in the general rate of profits is by no means incompatible with a partial rise of profits” (ibid., 119). Capitalists could therefore experience positive profits despite declining rates of profit due to counteracting influences such as increased demand.

Karl Marx agreed with the general framework of class income distribution theory laid out by Ricardo. He too believed that there was a tendency for the rate of profits to fall and wages to fluctuate around the subsistence level. Non-wage

7 Ricardo argues that the natural wage in a country “essentially depends on the habits and customs of the people” in a given country (Ricardo, 91). That is, the level of sustenance that is acceptable in one country is not necessarily the same in all countries. If a worker lives in a society with high wants, their wage will be higher than if they lived in a society of simpler means.
income was accepted as a residual measurement. Marx, however, thought two important aspects of class income distribution needed to be addressed. First, he differentiated between labor and labor power. Labor power “is to be understood [as] the aggregate of those mental and physical capabilities existing in a human being, which he exercises whenever he produces a use-value of any description” (Marx, 1867, 167). Marx believed that labor power was a commodity sold by laborers. Whereas labor power was the potential to do work, “labour-power in use is labour itself” (ibid., 177). Labor was thus the act of realizing the ability to work. This distinction was important because it is the foundation for his concept of surplus value. Humans had a capacity to work much greater than the amount of labor we need to expend to replenish this potential. Marx referred to the portion of the working day needed to earn enough for subsistence “‘necessary’ labor time” (ibid., 217). Any labor expended beyond this point generated surplus value for capitalists.

Capitalists therefore paid laborers just enough to ensure their subsistence but extracted an excessively large amount of labor compared to the amount of labor necessary for subsistence. Marx also argued that wages tended towards subsistence, but his rationale for why this occurred was different from Ricardo’s. Marx rejected the Malthusian theory of population as an explanation for the tendency of wages to fluctuate around the subsistence level. He instead believed that an “industrial reserve army” of unemployed workers was maintained by capitalists in order to foster competition between laborers and prevent wage increases (ibid., 632). Furthermore, the presence of an industrial reserve army resulted from the historical evolution of capitalism. As capitalism progressed, capitalists accumulated increasingly more capital. The majority of this accumulation was ever more productive physical capital. Demand for variable capital (i.e. labor) therefore grew at “constantly diminishing rate” because it
became a smaller and smaller portion of total capital (ibid., 629). According to Marx, downward pressure on wages was thus not a natural occurrence but rather a phenomenon specific to the historical conditions of the capitalist mode of production.

Classical and Marxian income distribution theories shared similar foundations. While Marx sought to improve upon Ricardian theory, the biggest difference between the two was the nature of capitalism. Ricardo argued that since capitalists would only produce commodities for which there was sufficient demand, capitalists would naturally seek to accumulate capital up to the point where profits equaled zero (Ricardo, 340). A decreasing rate of profit was attributable to higher wages made necessary by the diminishing marginal productivity of agriculture. Accumulation was thus portrayed as a self-regulating phenomenon that ensured stability in capitalism. Ricardo acknowledged the existence of intense competition between capitalists to accumulate capital, but did not believe that capital necessarily became concentrated within an ever smaller group of capitalists.

Marx rejected the notion that accumulation was governed by the rate of profit. He contended that accumulation was necessary for capitalist survival in the capitalist mode of production:

“the development of capitalist production makes it constantly necessary to keep increasing the amount of capital…and competition makes the immanent laws of capitalist production to be felt by each individual capitalist, as external coercive laws. It compels him to keep constantly extending his capital, in order to preserve it” (ibid., 592).

Accumulation fostered vicious competition between capitalists, the losers in which did not survive. Marx believed that as capital became concentrated in a shrinking group of capitalists, capitalists would exert a greater degree of exploitation of the
working class. Ultimately, this desire for accumulation would contribute to the downfall of capitalism after a critical mass of degraded proletariats was reached, sparking a popular revolt against the capitalists (ibid., 763). While Ricardo asserted that the desire for accumulation could wane peacefully, Marx depicted a much more urgent picture of capital accumulation.

**Obstacles to an Analysis of Personal Income Distribution**

There are two important reasons why Ricardo and Marx never attempted to develop a theory of personal income distribution. Class conflict caused a rise in class consciousness that hindered the ability of Ricardo and Marx to analyze income on a personal level. It simply did not make sense for Ricardo and Marx to study how personal income distribution when people increasingly identified themselves as members of a class rather than as individuals. This is exemplified in the controversy surrounding the Corn Laws, where capitalists and landlords competed to attain supremacy in the public arena. Whichever class prevailed was effectively able to dictate how income was distributed between classes. Capitalists and landlords viewed themselves as part of a greater class movement rather than individual members of society. In addition, the labor force of the time was relatively more homogenous than it is today. This made it difficult to differentiate workers or treat them as individual economic agents. Ricardo and Marx, at least from an economic perspective, would have had difficulty distinguishing between individual members of a given class.

Ricardo and Marx lived in an era when class conflict was at the center of policymaking in Europe. Class distributions of income reflected economists’ perspectives on class conflict. The controversy over the British Corn Laws demonstrated the tension between landlords and capitalists that persisted during the rise of classical political economy. Landlords favored implementing the Corn Laws because protection from foreign competition allowed landlords to charge
higher rents. Capitalists wanted to keep food prices as low as possible because the subsistence level depended upon the price at which workers could feed themselves in order to restore their labor power. Cheaper food meant higher profits for capitalists. While enacting the Corn Laws seemed to favor the landlords and their repeal appeared to cater to the interests of the urban capitalists, class conflict was much more complex than a dispute between capitalists and landlords. Conflict also arose between members of the same social class as class distinctions blurred.

One instance of intra-class tension arose between established landlords and newly landed capitalists. Many established landlords favored legislation that

“served to reinforce the status of the existing elites of both town and countryside by re-emphasizing the notion that the prosperity of the various classes which composed the same interest group was primarily affected not by one another but by a rival interest group [the urban capitalists],” (Moore, 1965, 544).

The Corn Laws thus strove to maintain the status quo of class relations in British society. That hierarchy survived mainly on the mutual interest among well-established landed and capitalist elites to preserve traditional British social structure. Yet as industry expanded in Great Britain, the formerly mutual interests between rural and urban elites diverged. Capitalists sought cheap food to keep production costs down but established, or hereditary, landlords wanted prices to remain high. Hereditary landlords sought to maintain prosperity through high agricultural prices, but an “arriviste” class of newly landed elites who had made a fortune in the cities strove to reap profits by implementing innovative farming techniques that increased crop production (ibid., 551). Social standing of older landed elites was further undermined by capitalists who purchased land in order to accumulate more capital. As the pace of capital accumulation accelerated and landed capitalists subsequently gained influence, older landlords felt their authority in the public arena begin to wane.
The eventual repeal of the Corn Laws ultimately benefited the capitalist class because foreign competition lowered food prices, but Sir Robert Peel’s official justification for presenting the necessary legislation was “to extricate the kingdom from the social dilemmas” that arose from the incessant class disputes in European society that dominated the era (ibid., 560). Thus while the repeal of the Corn Laws had economic implications, it was more focused on achieving social harmony. Peel wanted to encourage the hereditary landed elite to shift their focus from prices to output, and thus develop an entrepreneurial outlook similar to capitalists. Unfortunately, this legislation was misguided in that it “failed to recognize the impossibility of commercializing the status of the landlord without also commercializing the status of the tenant” (ibid., 559). Urban capitalists emerged as the victors from repeal of the Corn Laws because legislators failed to comprehend the nature of the rural hierarchy properly. The controversial nature of the Corn Laws and their repeal was representative of the divide within classes that existed during the rise of classical political economy and the critiques that quickly followed. Since class conflict dominated European society, income distribution was viewed as a class-based issue rather than one pertaining to individuals.

The relative homogeneity of the labor force also inhibited the ability to differentiate between individuals. Reich, Gordon, and Edwards argued that before the era of monopoly capitalism began in 1890, production was governed by the rules of competitive capitalism (Reich, Gordon, and Edwards, 1973, 360). Production was heavily standardized, primarily took place in factories, and involved many simple tasks. Capitalists favored this type of production strategy because strong competition disincentivized the extra expenses associated with the types of specialized training that accompanied monopoly capitalism. Monopoly capitalism was characterized by the production of differentiated good by specialized labor. Furthermore, the dramatic rise in population and movement of unskilled workers
into concentrated urban areas ensured that a large supply of easily substitutable labor was readily available for capitalists to draw from (Brown, 1977, 72).

Increasing class consciousness and a relatively homogenous labor force prevented Ricardo and Marx from examining the distribution of income on a personal level. It did not make sense for them to study personal income distribution when public debates such as those surrounding the Corn Laws were class-based. Individuals were viewed more as members of a social class rather than unique economic agents. The structure of industry during this era made it even more difficult to study society on an individual level. Production often centered on simple, repetitive tasks so labor was easily interchangeable.

II. Marginal Productivity Theory

Ricardo first introduced the marginal principle to economic theory. He argued that as less fertile land came under cultivation, the rent on more fertile land increased (Ricardo, 1821, 60). John Bates Clark endeavored to expand Ricardo’s marginal principle in two important ways. In his Distribution of Wealth, Clark generalized the principle of substitution to include all factors of production, and proposed that “the pay of labor in each industry tends to conform to the marginal product of social labor employed in connection with a fixed amount of social capital, as such” (Clark, 1899, 116; emphasis his). Although Clark articulated an explanation of how the natural rates of profits and wages were determined endogenously, he maintained the classical assumption that the endowments of capital and labor were naturally determined. Consequently, while the theory of marginal productivity inspired later theories of personal income distribution, it is itself more a theory of factor demands than one of income distribution.

Clark developed his theory of marginal productivity as an analogue to Ricardo’s explanation of rents. He imagined a “universal field for employment”
that included all workers (ibid, 110). Those who had access to the central field of fertile land or a sufficiently stocked store naturally had access to higher levels of productivity. Workers located farther from this central field had to choose from lower quality employment. In the zone of indifference, employers earned zero profit and thus stopped hiring. Competition ensured that all employers hired employees up to this point. The analogy of a universal field for employment is important because of an important aspect Clark omitted from his discussion: he did not explain how workers were placed throughout the field, or if it was possible for them to move from their initial position. Their position was determined naturally. During the rebirth of income distribution theory in the coming decades, this assumption motivated human capital theory and segmented labor market theory to explain how workers moved within the “universal field of employment.”

The theory of marginal productivity also maintained the classical assumption of homogenous labor. Clark acknowledged that skilled workers were more productive than unskilled workers, but argued that all labor could be measured in the same units of labor (ibid., 63). He therefore assumed that all labor could be reduced to a common denominator, which minimized the importance of skill differential. A skilled worker could be replaced by two or more less-skilled workers. Although Clark maintained these important classical assumptions, he departed from the classical theory of income distribution in several important ways.

Foremost among Clark’s critiques of classical political economy was the argument that Ricardian economics was an endeavor that “was really studying a static…world with no complete idea of its nature,” which he addressed by relaxing the assumption of a static economy (ibid., 69). Clark believed that economic theory needed to reflect the dynamic nature of the world. The Distribution of Wealth can thus be viewed as his attempt to complete Ricardo’s work. While natural law remained a governing principal in that the productivity of workers was
naturally determined, “social economic dynamics” such as increasing population and wealth, technological innovation, introduction of new products, and labor flow between groups were introduced (ibid., 73). Clark realized that the state of the world in the present was not the same as it was in the past, and that it would also be different in the future. Even though wages naturally tended to their natural level, the dynamic nature of society had to be taken into account. The biggest contribution Clark made to income distribution theory was that the determination of wages adhered to natural law because they were equal to an exogenously determined marginal productivity, while granting that these exogenous forces changed over time. To put it concisely, “what we have to see is how static laws operate in a dynamic state” (ibid., 403).

It is clear that Clark drew upon Ricardo when formulating his theory of marginal productivity, yet there is also evidence that he did more than simply apply the marginal principle to include all factors of production. Ricardo held the proportion of capital to labor constant; his theory of rents, therefore, assumed varying fertility of the soil. Clark varied the factors of production separately (ibid., 163). While Ricardo assumed technology to be unchanging, the interchangeability between labor and capital in The Distribution of Wealth implied that technological change was an important aspect of production. This is an important implication because it allowed human capital theory to maintain that labor was both dynamic and highly substitutable, a necessary condition for the assumption of perfect competition in the labor market underpinning human capital theory.

The Distribution of Wealth inspired future work on personal income distribution theory through the introduction of the idea that workers were paid according to their marginal productivity. Clark touted his work as “an inspiring vista for future advances” in economic theory (ibid., 75). What he did not foresee, however, were future attempts to treat social economic dynamics as endogenous
to the explanation of personal income distribution. Relaxing the assumption of natural skill determination served as the impetus for numerous theories of personal income distribution. Whereas Clark took the distribution of factor endowments as given, future work on income distribution sought to explain how marginal productivity was determined. Theories of personal income distribution can be seen as an extension of marginal productivity theory. While marginal productivity closely identified with classical political economy, Clark’s work effectively broke the hegemony of class income distribution in economic analysis.

III. Theories of Personal Income Distribution

Circumstances Contributing to the Rise of Theories of Personal Income Distribution

One of the reasons economic thought focused upon theories of personal distribution during the renaissance of income distribution in the mid-twentieth century was the widespread study of the causes of discrimination. Becker’s *The Economics of Discrimination* (1957) was one of the pioneering works on the subject. Becker argued that it was possible to conduct an economic analysis of the effects of discrimination because “if an individual has a ‘taste for discrimination,’ he must act as if he were willing to pay something either directly or in form of reduced income, to be associated with some persons instead of others” (Becker, 1971 (1957), 14). Employers associated non-pecuniary costs of production with minority employees. This “taste” resulted from prejudice and ignorance, and varied both temporally and spatially.

Although Becker believed that discrimination in the labor force existed, he also believed the forces creating discrimination were dynamic. The level of discrimination present in the work place could thus change over time. To test this, he measured the change in average occupational position for both whites
and minorities from 1910-1950. Relative occupational position was measured by comparing the income for skilled, semiskilled, and unskilled minorities with the average incomes for their respective white counterparts. Becker found that the relative occupational position of minority workers had remained stable over time (ibid., 140). Discrimination had therefore not decreased. An absolute increase in income for minorities did not necessarily imply an increase in their position relative to whites because the incomes of white employees increased as well.

*The Economics of Discrimination* served as an impetus for numerous studies examining the impact of discrimination. Rayack (1961) and Gilman (1965) criticized Becker’s arguments about the persistence and magnitude of discrimination in the workplace, respectively. Rayack argued that Becker’s conclusion of an unchanged level of discrimination towards blacks, as measured by their income relative to whites in the first half of the twentieth century resulted from the erroneous construction of his occupational index (Rayack, 1961, 210). Rayack believed Becker did not account for the fact that blacks were heavily concentrated in semi-skilled and unskilled professions. After generating an occupational index that factored in this characteristic, Rayack showed that income for blacks had, in general, increased more than it had for whites so that by 1957 the occupational position of blacks had increased by 34 percent relative to 1900 (ibid., 211). He also contended, however, that this increase did not reflect a decrease in discrimination. The increase was instead due to increased demand for labor, and any sustained increase in occupational position was “substantially, a function of the tightness of the labor market” (ibid., 214). Becker could thus be correct in his assessment that the level of discrimination in the labor force had remained unchanged throughout the twentieth century and simultaneously incorrect in his belief that the position of blacks in the workplace had improved neither absolutely nor relatively.
Gilman (1965) provided a further critique of *The Economics of Discrimination*. He believed that the impact of discrimination on minority unemployment was significantly smaller than initially thought (Gilman, 1965, 1080). This evidence challenged the notion that minorities were targeted in the hiring-firing process. Gilman drew a conclusion similar to Rayack (1961) by suggesting that discrimination was most evident in wage rigidity. Minorities experienced greater wage rigidity and thus higher unemployment rates because “the greater the pressure in an occupation or region for nonwhite-white wage equality, the greater will be the gap between equilibrium and actual wages, and the greater will be the reduction in employment opportunities for nonwhite relative to white workers” (ibid., 1091). Minimum wage laws and unions keep the actual wage above the equilibrium wage. The greater this disparity, the fewer employment opportunities for minority workers there would be.

Regardless of the extent to which discrimination existed, one reason it endured in the labor market was imperfect information. Gathering information on potential employees was costly, which made it difficult for minorities and females to show that they were equally as skilled as their white male counterparts. Arrow (1971) claimed that minorities and women were paid less than equally skilled white male employees because “skin color and sex are cheap sources of information” (Arrow, 1971, 25). Employers had preconceived notions of the productivity of women and minorities, and imperfect information in the labor market allowed these prejudices to persist. There was less incentive for female and minority workers to make the investments necessary to increase their productivity because no amount of investment could outweigh the cheap information provided by their skin color or gender (ibid., 29). Therefore while a minority or female worker and a white worker could begin with the same productive potential, the latter would be more likely to realize this potential and thus enjoy a better occupational position.
Marxists viewed discrimination differently. While neoclassical economists treated the origins of discrimination as exogenous to the capitalist system of production, Marxists believed that discrimination was perpetuated endogenously. Capitalists implemented various forms of discrimination as a means to prevent camaraderie among workers (Reich, Gordon, and Edwards, 361). Employers exploited ethnicity, race, and sex to ensure competing factions of workers who would not compromise capitalist hegemony. They hired groups of rival nationalities to antagonize each other. Jobs were “race-typed” and women were paid less than men as a means of forcing these workers to accept submissive roles in society (ibid., 362). As capitalism evolved beyond a relatively homogenous labor force, capitalists stoked race conflicts and other forms of social unrest to ensure their continued perch atop the social hierarchy.

Such an emphasis in academia on discrimination encouraged development of theories of personal income distribution because discrimination was fundamentally based on the notion that not all workers were the same. Employers assumed that white male workers were superior to other workers even if the “intrinsic identities” between workers were equal (Arrow, 1971, 28). The presence and influence of discrimination required that laborers no longer be viewed as homogenous members of a social class but instead be considered individual economic agents. When studying income distribution, economists acknowledged that individuals faced different environments and constraints that influenced their position in the labor force. There was thus a need to conduct economic analyses on a personal level. Becker foreshadowed the rise of human capital theory in *The Economics of Discrimination* by mentioning that a relationship existed between economic capacity and “the capital invested in [people] through education” (Becker, 1971 (1957), 112).

The notion of heterogeneity in the labor force was an important
implication of the discussion on discrimination. Incorporating a heterogeneous labor-force into income distribution analysis became necessary because people could no longer be sorted into broad categories such as laborers and capitalists. Reich, Gordon, and Edwards (1973) studied heterogeneity within the labor market from a historical perspective. They asserted that the captains of industry sought to capture control over product and factor markets because they had been relieved of the competitive pressures inherent in the previous stage of capitalism (Reich, Gordon, and Edwards, 1973, 361). In order to establish themselves in product markets, capitalists of the new age of capitalism had to differentiate themselves from their competitors in order to survive. Yet while product differentiation conferred the indirect benefits of monopoly capitalism, Reich, Gordon, and Edwards pointed out another, more sinister and explicit motive for promoting heterogeneity in the labor force that accompanied the rise of monopoly capitalism.

Reich, Edwards and Gordon argued that capitalists encouraged a shift away from homogenization in the labor force “to break down the increasingly unified worker interests that grew out of the proletarianization of work” (Reich, Edwards and Gordon, 1973, 361). They believed that a homogenous labor force fostered a sense of unity among the workers that threatened the consolidation of power in the capitalist class. A strategy of “divide and conquer” was therefore needed to quash any semblance of solidarity in the labor force (ibid., 361). Thus while heterogeneity of the labor-force may have arisen with the evolution of capitalism, it was perpetuated by the capitalists as a preventative measure against class cohesion amongst laborers.

There were also studies conducted within a neoclassical framework that showed evidence of heterogeneity of the contemporary labor force. Gallaway (1967) found that although workers responded positively to earnings, distance acted as a deterrent to job mobility. Workers thus did not always move to regions
paying higher wages (Gallaway, 1967, 465). The decision to forego a higher income was rational because the uncertainty due to imperfect information created trade-off costs between distance and earnings. Workers faced a higher degree of uncertainty with longer distances because distance acted as an “information filter which inhibits the flow of labor market knowledge between areas” (ibid, 472). Trade-off costs became increasingly large with distance so workers were less likely to move in order to gain a marginal increase in income. Wages therefore did not necessarily equalize across regions; differences in incomes for identical jobs could persist.

Gallaway (1967) also found evidence that labor was not easily substitutable. Trade-off costs were not limited only to distance, skill also acted as a barrier to entry for employment in an industry (ibid., 471). Workers from some industries faced more restrictive barriers to entry than workers from other industries because labor was specialized. A wide range of trade-off costs existed across industries: workers in professions with higher trade-off costs embodied less transferable skills as a result of extended parochial training (ibid., 472). Workers who thus received highly specialized training were not able to find alternate employment outside of their chosen industry and earn an income comparable to the one they received in their former industry. Specialization of skills in the labor force therefore greatly affected the ability of workers to switch professions. Both interregional and inter-industry heterogeneity therefore challenged the classical assumption of homogeneity within the labor force.

Analyses of discrimination and labor force heterogeneity facilitated a renaissance of interest in income distribution theory. They signaled that labor could no longer be viewed through the perspective of classical political economy. Workers could no longer be viewed as easily interchangeable. But while discrimination and heterogeneity of the labor force identified the need for
a reevaluation of income distribution, these studies did not develop theories of personal income distribution on their own. Human capital theory and segmented labor market theory offered competing explanations of how discrimination and heterogeneity within the labor force influenced personal income distribution. For instance, discrimination encouraged segmented labor markets, but “discrimination itself does not create the segmentation” (Harrison and Sum, 1979, 698). Human capital theory sought to “single out individual investment behavior as a basic factor in the heterogeneity of labor incomes” (Mincer, 1970, 6). Theories of personal income distribution that emerged during the rebirth of thought on income distribution were thus influenced by the prominent issues of the mid-twentieth century.

**Human Capital Theory**

Human capital theory operated under the assumption that individuals decided to invest in training or education that allowed them to obtain the skills that made them more productive and consequently determined their income (Becker, 1962, 9). The distribution of personal income could thus be explained through an analysis of the distribution of human capital among participants in the labor force. Human capital theorists argued that demand for this training and education was determined by the marginal rate of return on investment, and that its supply was determined by the volume of funds available for an individual to acquire training or investment (Mincer, 1970, 18). Wage rates were market prices that reflected the relative scarcity or surplus of different types of labor. This explanation of the personal distribution of income was thoroughly grounded in neoclassical economics.

Jacob Mincer, Theodore Schultz, and Gary Becker were the pioneers of human capital theory. All three acknowledged that human capital was a broad term that included components such as physical health and psychological
well-being, but they agreed that training was the most important type of human capital formation. Mincer (1958) constructed a model examining the effect of investment on human capital under the assumption of rational choice. He argued that individuals chose the amount of training they wanted based on their perceived learning capacity (Mincer, 1958, 286). People with greater learning capacities chose to acquire more training and enter professions requiring more training. Furthermore, earnings within a profession fell along a “life-path” where older workers earned more than younger workers (ibid., 288). Mincer suggested that workers gained experience the longer they worked in a profession, which increased their productivity and income. Professions that required more training also paid higher salaries because they required longer postponement of earnings (Mincer, 1970, 7). Higher incomes were thus partly compensation for the shortened period during which those who received the training enjoyed returns on their investment. Personal income distribution was determined by the initial decision of how much training to acquire and how much on-the-job training a worker obtained in their chosen profession.

Schultz (1961) built upon Mincer’s work by contending that the decision to invest in human capital was influenced by the expected return on investment. He asserted that while “any capability produced by human investment becomes part of the human agent and hence cannot be sold; it is nevertheless ‘in touch with the marketplace’ by affecting the wages and salaries the human agent can earn” (Schultz, 1961, 8). Similar to Mincer, Schultz concluded that people who benefited the most from investment in human capital were the most likely to invest the greatest amount in training. Schultz’s analysis diverged from Mincer’s, however, in the type of training studied. Schultz focused on measuring the returns to formal education because he believed that the exact role of on-the-job training in modern industry was not adequately understood (ibid., 10). He
argued that formal education had taken over a significant portion of the training and preparation traditionally acquired through on-the-job training arrangements such as apprenticeships. Schultz chose to study how the stock of education in the labor force affected economic growth. He asserted that a more educated labor force was a more productive labor force and found that between 1900 and 1956, the stock of education in the labor force grew twice as fast as the stock of reproducible capital (ibid., 11). It was therefore greater educational attainment, and subsequently higher levels of human capital, that drove American economic growth in the first half of the twentieth century.

Perhaps the most comprehensive promotion of human capital theory advocated during the rebirth of income distribution theory was *Human Capital and the Personal Distribution of Income* by Becker (1967). He constructed a model of income distribution similar to Mincer’s by incorporating the assumptions of rational choice and variable life-paths of earnings. Furthermore human capital was discussed mostly in the context of educational attainment. But rather than simply reviewing earlier work, Becker also wanted to expand “our rudimentary knowledge of the forces generating income distributions” (Becker, 1967, 12). Therefore while Mincer and Schultz identified the causes of the skewness of income distribution, Becker undertook to explain them better.

Becker first summarized two special cases of the distribution of human capital. Under the “egalitarian” approach, he assumed that all people faced the same demand conditions for human capital and that income was determined by the supply of opportunities to invest in human capital faced by individuals. In short, the egalitarian approach proposed equal capacity to benefit from investment in human capital, and that differences in environment determined the distribution of human capital (ibid., 13). Income variances could be explained by family wealth, subsidies and factors such as luck that shifted the supply curve for human capital.
outward. The “elite” approach was essentially the opposite. It presumed supply conditions to be identical and that demand for human capital was determined by the amount of investment in training and education (ibid., 16). More able workers, for instance, were more likely to invest in human capital and thus have a higher demand for it.

Becker believed that in reality, social institutions influenced both the supply and demand for human capital (ibid., 24). Students with greater natural ability not only had greater demand for human capital, their exceptional capacities also made them likelier to attend better schools and make them more attractive scholarship applicants. Legislation aimed at eradicating poverty shifted the supply curve of human capital for less wealthy people outward, thereby reducing the cost of investment. Through his analysis Becker provided a comprehensive explanation for how investment in human capital determined the personal distribution of income.

In the twentieth century, economists began to shift their focus from away from explaining the class distribution of income and towards analyses of the distribution of income among individuals. This change was motivated by studies on economics of discrimination and increasing heterogeneity of the labor force. Clark’s theory of marginal productivity first broached the notion of disaggregating classes, and served as the foundation for human capital theory, the most influential neoclassical theory of personal income distribution that emerged during the renaissance of income distribution theory in the mid-twentieth century. Mincer, Shultz, and Becker developed human capital theory to explain how the marginal productivity of workers was determined, and thus develop a more comprehensive understanding of the relationship between wages and marginal productivity.
Criticisms of Human Capital Theory

Three basic criticisms arose in response to human capital theory. One group of economists cited various econometric issues with studies that measured the impact of investment in human capital on output. Griliches (1977) asserted that an “ability” problem and the possible influence of optimizing behavior on schooling decisions by individuals had not been addressed in models constructed in the framework of human capital theory. Ability accounted for the possibility that a given level of investment in human capital yielded varying returns depending on the person. Including an ability variable in empirical analyses, however, proved troublesome because it was difficult to measure (Griliches, 1977, 6). Optimization of schooling decisions was troublesome for human capital theory because such behavior was based on anticipated future earnings. Calculating the optimal level of schooling or on-the-job training implicitly required strong assumptions about individual behavior, which Griliches argued models of human capital theory failed to recognize. For instance, while there was initially a positive relationship between age and experience, older workers also reached a point where they became less productive than younger workers (ibid., 14). Human capital theory therefore implicitly assumed infinite life, even though it argued that jobs requiring more training required higher compensation due to a shorter working life. Furthermore, he also stated that since optimal schooling decisions were based on anticipated earnings, any difference between ex-post and ex-ante incomes increased the correlation between the schooling and residual terms in a model measuring income (ibid., 13).

Blaug (1976) was also critical of the econometric viability of human capital theory. Measuring the effect of on-the-job training on income was especially problematic because the various aspects of on-the-job training were not adequately defined. He contended that human capital theory did not differentiate
between increased productivity from costless learning-by-doing and costly self-
investment (Blaug, 1976, 839). Human capital theory therefore did not provide
sufficient measures of on-the-job training by limiting itself to general and specific
training. Blaug faulted human capital theory models for producing significant,
unexplained differences in returns to investment in different types of human
capital as well. These discrepancies were due to the neglect of variations in
educational quality and the existence of an “overtaking point” (ibid., 838). The
benefits of schooling grew over time rather than being fully realized immediately
after schooling was completed. Blaug attributed these measurement errors to the
overly ambitious nature of human capital theory. He believed the focus of human
capital theory was too broad, making it difficult to determine “what hypothesis is
being tested” (ibid., 832).

Advocates of the screening hypothesis constituted another group critical
of human capital theory. They asserted that the assumption of perfect information
in labor markets was unrealistic. Economic theory needed to reflect the high
degree of imperfect information employers faced when reviewing job applicants.
Supporters of the screening hypothesis agreed that human capital theory was
correct in that individual incomes were determined by the level of investment
in human capital, but they developed a different explanation for how human
capital affected income. The link between human capital theory and the principle
of marginal productivity did not explain personal income distribution because
a “diploma serves primarily as an imperfect measure of performance ability
rather than as evidence of acquired skills” (Arrow, 1973, 193). The screening
hypothesis essentially argued that education separated more able workers from
less able workers. Income was determined by ability, not productivity. Stiglitz
(1975) contended that educational screening occurred naturally in society because
it was the “byproduct” of providing knowledge and career direction to students in
schools (Stiglitz, 1975, 294). Bright students were identified by teachers who then passed this information along the educational chain. School was used primarily to sort students into levels of ability, not to develop skills to make more productive workers, as human capital theory suggested.

Several important assumptions served as the foundation for the screening hypothesis. Most important among them was the existence of inherent market failure within the labor markets stemming from the lack of knowledge and cost of obtaining information about potential employees (Taubman and Wales, 1975, 112). College diplomas were used by employers as a proxy for ability because they offered quick insight into the skills and capabilities embodied in applicants. As a result, the supply of labor for high-paying occupations is restricted to the well-educated (ibid., 118). Stiglitz argued that access to information also affected the decision making of job applicants. Individuals decided how much education to invest in based on their perception of their ability. Risk-averse people therefore chose to forego the chance of being screened as a below-average worker even if they were highly capable (Stiglitz, 287). Yet while educational screening was imperfect, Stiglitz cautioned against forbidding employers to practice it. Screening would still occur, it would merely change forms. Forcing employers to rely solely on on-the-job screening would make screening more expensive and reduce output (ibid., 291). Everyone would be left worse off.

The screening hypothesis made a compelling case against the limitations of human capital theory, but the former faced scrutiny on theoretical grounds as well. In the development of his model supporting the screening hypothesis, Arrow (1973) acknowledged that “employers cannot measure ability directly, and there is no reason to suppose that the economist is going to do any better” (Arrow, 216). Screening was based on the assumption that people have differing levels of ability and that the more able use educational attainment to signal this.
Yet if ability in general cannot be measured, it is nearly impossible to determine its distribution. Layard and Psacharopoulos (1974) also conducted an empirical study based on Arrow’s work and obtained results challenging the predictions of the screening hypothesis. For instance, they found that dropouts and students who completed their coursework earned similar rates of return (Layard and Psacharopoulos, 1974, 991). That challenged the notion put forth by the screening hypothesis that a bachelor’s degree signaled to employers a more capable worker than an applicant who completed only some coursework. Although the screening hypothesis provided a neoclassical alternative to human capital theory, it failed to unseat human capital theory as the primary explanation of personal income distribution in orthodox economics.

IV. Radical Political Economy

Radical political economy criticized human capital theory from a heterodox perspective. Its supporters were less concerned with the empirical issues of human capital theory, instead choosing to focus on the fundamental perception of production in neoclassical economics. While neoclassical economics shifted focus to the functional aspect of production with the introduction of the theory of marginal productivity, radical political economy asserted that the social aspect of production was the primary determinant of personal income. Marxists criticized human capital theory for artificially resolving the inherent class conflict associated with capitalist systems of production by considering every worker a capitalist (Bowles and Gintis, 1975, 74). In fact, radical political economy questioned human capital theory’s definition of capital. Learning could only be a form of capital if it allowed workers to go into production on their own (ibid., 79).

Radical political economists challenged the notion that workers were paid according to their marginal productivity because they believed that the
structure of capitalist firms encouraged the de-skilling of their workers (Rebitzer, 1993, 1401). Essentially this meant that, rather than encouraging workers to acquire more training in order to become more productive, they actually preferred workers to embody only a minimum level of human capital. As a result they became discouraged and the mundane nature of their work prevented them from increasing, or even maintaining, their productivity. This is a contemporary re-statement of the inevitable alienation of workers by capitalists espoused by Marx.

Human capital theory argued that higher productivity levels caused higher wages. Radical political economy effectively argued the opposite: lower wages caused productivity to fall. Workers embodied a natural endowment of “human capital” that was augmented by schooling and training, but the economic return to these investments was governed by the extent to which these same workers legitimated the authority of firms over their employees (Bowles and Gintis, 1974, 80). Schools were important, but not in the way human capital theory proposed. The main goal of the education system was “to prepare students by developing attitudes appropriate to the political position they can be expected to occupy within firms” (Rebitzer, 1993, 1403). Marginal productivity was therefore unimportant to an analysis of personal income distribution.

Since radical political economy criticized the theoretical foundations of human capital theory, it can be viewed as a critique of the orthodox theory of personal income distribution. Radical political economy was “not ready to reduce the school system’s economically relevant activities to screening and labeling” (ibid., 75). Imperfect information did exist in the labor market, but education was not used as a signaling device to help more capable workers of signaling their level of ability. The screening hypothesis was thus not a sufficient explanation for the distribution of personal income distribution either. While radical political economy acknowledged neoclassical economics’ contribution to the theory of
personal income distribution, its explanations of personal income distribution were incorrect. Marxist dissatisfaction with neoclassical theories of personal income distribution led to the formation of their own theory of personal income distribution: segmented labor market theory.

**Segmented Labor Market Theory**

While human capital theory explained differences in personal income levels through a neoclassical perspective, segmented labor market theory sought to explain personal income distribution in a Marxian framework. In this framework, “political and economic forces within American capitalism have given rise to and perpetuated segmented labor markets, and … it is incorrect to view the sources of segmented labor markets as exogenous to the economic system” (Reich, Gordon, and Edwards, 359). Instead of contending that the personal distribution of income was determined by the functional aspect of production, proponents of segmented labor market theory argued that it was mainly the result of the social aspect of production. Wages and productivities applied to the jobs themselves, rather than the individual workers occupying those positions (Harrison and Sum, 1979, 694). Similar to the divide in classical political economy between Ricardo and Marx, a split between neoclassicals and a group influenced by Marxism developed during the renaissance of income distribution theory in the mid-twentieth century.

Segmented labor market theorists differentiated between primary and secondary labor markets. The primary labor market comprised firms with market power, sustainable sources of income, and the ability to pay above-subsistence wages (Harrison and Sum, 1979, 689). Firms in this sector could afford to pay for training for their employees because their market power allowed them to pass some of the cost to consumers. Firms also invested in human capital to increase the productivity of their workers. Consistent with Marxism, members of a relatively
small group whose size was maintained by rigid entry requirements earned high incomes while most workers toiled away in unattractive and unfulfilling jobs. And since firms in the primary sector invested significant resources in training and physical capital, jobs in this sector required stable working habits. The primary labor market thus provided relatively stable employment. Due to higher wages and greater stability, jobs in this sector were highly valued. Poor people were not excluded from the primary segment merely for being lazy or lacking the capacity for human capital necessary for entry into the primary segment. The institutional framework of the capitalist system artificially restricted entry into the primary labor market (ibid., 694). Poor people were poor mostly due to employment prospects restricted to the secondary labor market.

Jobs in the secondary sector were much less secure. Unstable product demand prevented firms from ensuring long-term employment. Furthermore, production processes in this segment were labor-intensive and involved simple or repetitive tasks so workers were interchangeable. Stable working habits were discouraged as a result and there was little opportunity for career advancement. The secondary labor market was connected to the primary labor market through such means as subcontracting but “many adults are unable to escape from it and spend much or all of their lives there” (ibid., 690). Secondary workers thus played an important role in the economy because the primary sector was dependent upon their employment for such services as subcontracting, but they were also expendable. In effect, the secondary labor market was the modern Marxists’ equivalent to the reserve army of the unemployed. Competition kept wages low among a group of people without which the economy could not function.

Labor market segmentation went beyond this general distinction between primary and secondary sectors. Piore (1972) further segmented the primary labor sector into upper and lower tiers. Workers in the upper tier held management jobs,
which conferred higher status and pay, and greater economic security. There were relatively high turnover rates but this was attributed to career advancement rather than termination. Members of the lower tier of the primary sector were regularly employed blue collar workers. Workers adhered to a strict set of work rules that were predicated upon the hegemonic relationship between worker and supervisor. Each segment had a different “mobility chain” that signified the opportunity for career advancement (Piore, 1972, 6). Workers in the upper tier had the most opportunity for promotion, the lower tier was more rigid, whereas there was little chance for advancement in the secondary labor market.

Race was cited as one of the primary causes of labor market segmentation. Segmentation by race arose from “certain jobs that are ‘race-typed,’ segregated by prejudice and labor market institutions,” (Reich, Gordon, and Edwards, 360). This was compounded by geographic separation of employment opportunities, which hindered the flow of labor. Harrison (1972) found that underemployment and poverty persisted in urban ghettos, due to a lack of economic opportunity for minorities. Minorities were considerably limited to a selection of “typically urban” jobs that prevented workers from fully recognizing their productive potentials (Harrison, 1972, 811). There were thus jobs that were often associated with specific races located in specific geographic areas. According to segmented labor markets, social institutions were the most important factor in determining the distribution of personal income. Workers with higher levels of productivity did earn higher incomes, but the access to investments that increased productivity was determined by social institutions prevailing at the time.

Segmented labor market theory presented a heterodox alternative in the proliferation of theories of personal income distribution in the mid-twentieth century. While human capital theory offered an explanation for personal income distribution within a marginal productivity framework, segmented labor market
theory stressed the importance of social institutions to the determination of income distribution among individuals. It therefore appeared that two polemic approaches to the analysis of personal income distribution developed during the renaissance of income distribution analysis.

V. Reconciling Human Capital Theory and Segmented Labor Market Theory

Previous work has been done comparing the relationship between mainstream orthodox economics and the heterodox alternative. Rebitzer (1993) argued that “radical and mainstream neoclassical labor economics have exerted an important influence on the other” (Rebitzer, 1396). A relationship could therefore be drawn between the two, despite their presumably opposed theoretical foundations. But despite making this connection, Rebitzer treats neoclassical and radical approaches to labor market segmentation separately (ibid., 1412). Thus while there was significant overlap between the competing theories of personal income distribution, they were still distinct. A closer examination of the human capital theory and segmented labor market theory literature, however, reveals an even greater degree of overlap than suggested by Rebitzer, so much so that they effectively become identical.

The treatment of class conflict by human capital theory was one of the major points of contention segmented labor market theorists had with the orthodox approach to personal income distribution. Proponents of segmented labor markets argued that human capital theory “formally excludes the relevance of class and class conflict to the explication of labor market phenomena” (Bowles and Gintis, 75). One of the fundamental underpinnings that segmented labor market theorists built upon when responding to human capital theory was the argument that human capital theory artificially resolved class conflict by making everyone a capitalist. Segmented labor market theorists believed that the persistent
significance of sorting workers into groups “is neither explained nor predicted by orthodox theory” (Reich, Gordon, and Edwards, 359). Although segmented labor market theory championed itself as a theory of personal income distribution that had corrected the theoretical flaws in human capital theory, it was not the dramatic departure from orthodox theory promised. Reconciliation between these competing theories is therefore not only possible, but relatively straightforward.

It is not entirely correct for critics of human capital theory to argue that it “predicts that labor market differences among groups will decline over time” (ibid., 359). Human capital theorists implicitly acknowledged the importance of social institutions when explaining how individuals decided on the amount of human capital to invest in. Accumulation of human capital was restricted by “legal and other obstacles to financing investment in human capital” (Becker and Chiswick, 1966, 359). Important social institutions such as inheritance of property income and availability of scholarships and loans were crucial factors that workers had to consider when making their investment decisions regarding human capital. Since the type of employment available to applicants was determined by the amount of training and education they embodied, social institutions had direct influence on the personal distribution of income in human capital theory. The influence of social institutions was thus an integral part of human capital theory and served to perpetuate differences between groups of workers. To argue that differences between groups would decline over time necessarily implies a convergence of social institutions that allowed everyone equal opportunity to invest in human capital, and that everyone benefited equally from this investment.

More importantly, segmented labor markets themselves are implicitly developed in human capital theory. The type of profession available to workers, according to human capital theory, depended on their investment in human capital. Once people decide how much to invest, they are effectively sorted into labor
market segments according to the level of training they have acquired. Workers then remain in their assigned segment. Human capital theorists develop their concept of segmented labor markets by referring to the stream of income as the life-path of earnings determined by investment in human capital. The notion of mobility chains held by segmented labor market theorists articulated a similar progression. Furthermore, both theories speak of stations as points along the life-path of earnings or mobility chain.

Mincer (1958) effectively argued that workers were more unlikely to switch professions in other industries and job categories once they decided how much to invest in human capital because life-paths of earnings existed for each occupation. Jobs could be sorted by “occupational rank” (Mincer, 1958, 288). Higher occupational rank led to higher income and greater social standing, which resulted in steeper life-paths of earnings. Workers gained experience and became more productive the longer they remained in a profession and moved up their respective life-paths of earnings (ibid., 287). There was therefore little incentive for workers to switch professions. They would not be able to obtain a job of higher occupational rank because they invested too little in human capital and were thus unqualified for such positions. Switching to a profession of lower occupational rank was irrational because doing so required sacrificing a steeper life-path of earning for a flatter life-path of earning, as well as movement down the new life-path of earning to reflect the lost experience from switching professions. Segmented labor market theory therefore essentially reiterated the notion of segmented labor markets developed by human capital theory.

Entry into stations occupying the primary labor market of segmented labor market theory was similarly regulated in human capital theory. Segmented labor market theory argued that “the educational system does much more than produce human capital,” (Bowles and Gintis, 1975, 78). Segmented labor market
theorists believed that the existence of meritocratic society that gave members of one group power over another group. While there was small window for young workers to escape the secondary labor market, most did not. Only those who obtained “bridge” jobs in such fields as metal-working could facilitate inter-segment mobility (Osterman, 1975, 514). Workers who were unable to enter the primary labor market early were trapped in the secondary labor market. Human capital theory developed rigid barriers to entry to labor markets prior to the development of segmented labor market theory. The belief that entry into professions was regulated by investment in human capital implied the existence of a meritocratic society from a human capital theory perspective. Furthermore, windows of opportunity were also an important aspect of human capital theory. Once individuals decided how much human capital to invest in, their window of opportunity effectively closed because they had sorted themselves into their respective professions.

There is thus a common perception of segmented labor markets and a labor market hierarchy. Both human capital and segmented labor market theories of personal income distribution promoted the notion of a rigid stratification of the labor market in which “each occupation is seen as a set in a stratum of society defined by income and way of life” (Brown, 1977, 118). Workers will be sorted into their stations at a fairly early age. Segmented labor market theory argues that this sorting is governed by social institutions. Human capital theory argues that it is determined by the level of investment made in human capital, which itself is influenced by social institutions. But regardless of how this sorting is actually conducted, both human capital theory and segmented labor theory argue that its effects are lasting. Once the sorting process is completed, it is uncommon for workers to move between segments. Thus contrary to a gradual decline in differences between groups of workers, human capital theory implies that there
is a tendency for them to endure, and even strengthen, over time. A worker sorted into a lower segment of the labor market was not likely to move into the upper segment and subsequently propagate the benefits of greater opportunity for investment in human capital upon future generations.

It is therefore difficult for supporters of segmented labor market theory to criticize human capital theory when the implications of each theory of personal income distribution are so similar. Human capital theory argues that segmented labor markets are the result of individual choice. People face constraints on the amount of human capital they can invest in, but within these constraints people are free to choose any level of investment they want. While segmented labor market theory also shows how labor market segmentation persists, it treats the origins of labor market segmentation as exogenous: the prevailing social institutions determined where in the labor market hierarchy an individual ultimately ended up. The largest theoretical difference between the two is thus a matter of endogeneity. This is ironic because Bowles and Gintis cite “the assumption of exogenously determined individual preferences” as a shortcoming of human capital theory while failing to recognize that segmented labor market theory is endogenous only to the extent that it explains how segmented labor markets reproduce themselves from an exogenously determined origin (Bowles and Gintis, 81).

The above criticisms are based on the argument that human capital theory does not account for the importance of social institutions in the determination of an individual’s income. Yet as the discussion above demonstrates, this argument can be clearly and concisely refuted. Human capital theory implicitly incorporates social institutions into its theoretical framework, and does develop a notion of segmented labor markets, but it is not manifested in the same way as segmented labor market theory. The influence of social institutions is much more implicit in human capital theory because human capital theory implicitly
factors them into individual decisions to invest in human capital. Therefore a more accurate assessment of human capital theory is that human capital theory assumes that individual incomes are determined by the level of investment made by individuals, given their unique constraints which are the product of social institutions. Segmented labor market theory makes these constraints much more rigid, diminishing the impact of individual choice. This, however, does not preclude the undeniable similarities underpinning the theoretical frameworks of orthodox and heterodox theories of personal income distribution, respectively.

VI. Conclusion

To argue that the late-twentieth century ushered income distribution in from the cold implies that its importance to economic theory had faded and needed to be revived. It is important to recognize the renaissance of income distribution theory in the mid-twentieth century. Atkinson failed to acknowledge the important contributions of human capital and segmented labor market theories of personal income distribution, instead choosing to cite development economics as the primary focus of income distribution in the twentieth century. In reality the twentieth century saw a great debate emerge over competing theories of personal income distribution, a debate that appeared to represent a wider gap than the one between classical and Marxian class theories of income distribution.

Ricardo and Marx developed class theories of income distribution to explain the class conflict that dominated European society during the rise of classical political economy. Each acknowledged the importance of the rate of profit to class distributions of income, but from this common point of emphasis their analyses diverged considerably. The divergence in class theories of income distribution was due primarily to competing beliefs about the sustainability of the capitalist system of production. Ricardo believed a falling rate of profit regulated
capitalist accumulation: capitalists were competitive but could coexist. Marx, on the other hand, deemed capitalism unsustainable. The capitalist thirst for accumulation was driven by an eat-or-be-eaten urgency. Accumulation meant survival and as capital became more concentrated, capitalist oppression grew to such an extent that it would help spark a proletariat uprising.

Neither Ricardo nor Marx attempted to develop a theory of personal income distribution because the labor force at the time was relatively homogenous, and they were living during an era of intense class competition, as evidenced by the Corn Laws. The primary concerns facing economists during the era of classical political economy were thus much more related to classes than individuals. The dominance of class theories of income distribution persisted until Clark introduced the notion that factors were paid according to their marginal productivity. He did not explain how marginal productivity was determined, however, choosing instead to merely state that there was a relationship between the two. Neoclassical economists developed theories of personal income distribution that sufficiently explained how marginal productivity influenced income. Human capital theory emerged as an important theory of personal income distribution but faced many critics. One group of critics, heavily influenced by Marxism, argued that income distribution on the individual level was determined by the social institutions of capitalist society. They developed segmented labor market theory in response to human capital theory and it appeared that an even greater divide over income distribution theory surfaced than the one between Ricardo and Marx.

Growing interest in discrimination and increasing heterogeneity of the labor force also encouraged the development of theories of personal income distribution. In short, the consensus that all labor was easily substitutable, which had persisted since classical political economy, began to break down. Economists began operating under the assumption that laborers were not easily
interchangeable. Drawing upon the limitations of Clark’s *The Distribution of Wealth*, numerous theories of personal income distribution were developed. Among them, human capital theory and segmented labor market theory emerged as the most influential orthodox and heterodox theories, respectively.

Yet upon closer examination, the presumed differences between human capital theory and segmented labor market theory can be reconciled to a large extent. Segmented labor market theory faults human capital theory for ignoring the role of social institutions and a segmented labor-force in the distribution of personal income. Human capital theory, however, implies that labor markets are segmented, and that barriers to entry in the labor market are largely due to social institutions. Workers were sorted according to the amount of human capital they embodied. Investment in human capital, which was constrained by the environment produced by social institutions, thus acted as a barrier to entry. The most significant difference between the two is the amount of freedom in workers’ initial employment decisions. Human capital theory argues that segmented labor markets are essentially a product of individual choice while segmented labor market theory asserts that segmented labor markets are pre-assigned.

Not only were there numerous important contributions to income distribution theory during the period it was supposedly out in the cold, a close connection between human capital and segmented labor market theories of personal income distribution developed. Segmented labor market theory was essentially a modification of human capital theory, placing more explicit emphasis on the role of social institutions in the explanation of individual income distribution. Although this distinction may seem nuanced, it is important to recognize that segmented labor market theory is not entirely redundant. Segmented labor market theory stresses the importance of social institutions while human capital theory acknowledges their influence much more implicitly. Professor Atkinson may have
had a valid argument that income distribution theory had become too focused on
development economics, but the twentieth century was the most important era of
income distribution analysis since classical political economy.

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